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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,163	08/09/2001	John Wilkes	10006371-1	4638

7590 07/21/2004

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EXAMINER

LY, ANH

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/927,163

Applicant(s)

WILKES, JOHN

Examiner

Anh Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office Action is response to Applicant's Response filed on 05/10/2004.
2. Claims 25-26 have been added.
3. Claims 1-26 are pending in this application.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-7, 10-15, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,978,815 issued to Cabrera et al. (hereinafter Cabrera) in view of US Patent No. 5,566,331 issued to Irwin, Jr. et al. (hereinafter Irwin).

With respect to claim 1, Cabrera teaches the claimed features loading a program from the data storage media into a computer system (for retrieving the required information, loading a program an appropriate program - I/O manager, from storage medium in order to access the information: col. 4, lines 10-19, col. 8, lines 44-48 and col. 12, lines 48-58), the program including at least a first routine for responding to a first

request type for access to the data storage media and a second routine for responding to a second request type for access to the data storage media (routines for file system and archival operations accessing the storage media: abstract and col. 21, lines 20-40 and see fig. 6);

receiving a request for access to data stored on the data storage media  
(receiving a I/O request: col. 21, lines 18-67 and col. 22, lines 1-67; also see fig. 6);

determining whether the request is of the first type or the second type  
(determining what needs to be done to process the I/O request: col. 11, lines 60-67 and col. 12, lines 12-21);

calling the first routine for accessing the data when the request is of the first type and calling the second routine for accessing the data when the request is of the second type (calling routine for performing the functions and routines may be different for each storage media from the I/O manger: col. 19, lines 5-50); and

presenting the request data (the data is displayed via a display device or output means: col. 6, lines 5-14 and col. 4, lines 25-38).

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach the archival operations or the second request type..

However, Irwin teaches I/O request for archival storage device operations on which the requested data file is stored and data file copy for this operation (col. 11, lines 45-67 and col. 12, lines 1-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 2, Cabrera discloses a method for retrieving data from a data storage media as discussed in the claim 1.

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach the archival operations or the second set of operations.

However, Irwin teaches I/O request for archival storage device operations on which the requested data file is stored and data file copy for this operation (col. 11, lines 45-67 and col. 12, lines 1-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 3, Cabrera teaches wherein the first set of operations including file system operations (loading a file: col. 4, lines 12-18).

With respect to claim 4, Cabrera discloses a method for retrieving data from a data storage media as discussed in the claim 1.

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does

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not clearly teach the second set of operations includes standardized archival operations.

However, Irwin teaches I/O request for backup the archival storage device (col. 18, lines 28-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 6, Cabrera teaches wherein the first request type includes a request for one or more files from a file system (col. 23, lines 33-58).

With respect to claim 7, Cabrera teaches wherein said presenting includes reformatting all of the data as a file structure (col. 26, lines 50-62).

With respect to claims 10-11, Cabrera discloses a method for retrieving data from a data storage media as discussed in the claim 1.

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and

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archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach wherein the first request type is by a first target system type and the second request type is by a second target system type and wherein said presenting the requested data includes formatting the data in accordance with the target system type.

However, Irwin teaches I/O request for backup the archival storage device (col. 18, lines 28-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 12, Cabrera teaches wherein the program including information about the data (the program I/O manager controlling the I/O request data: col. 16, lines 22-50).

With respect to claim 13, Cabrera teaches wherein the information about the data includes a file system directory (col. 23, lines 32-67 and col. 24, lines 1-25); and wherein the data is stored on the data storage media as raw data blocks (col. 15, lines 18-31).



With respect to claim 14, Cabrera teaches wherein the data is stored on the data storage media as raw data blocks (col. 15, lines 18-31).

With respect to claim 15, Cabrera teaches having data stored thereon and having computer readable program code thereon, the computer readable program code including a first routine for accessing the data in response to a request for access to the data as one or more raw data blocks and a second routine for accessing the data in response to a request for access to the data as a file structure (for retrieving the required information, loading a program an appropriate program - I/O manager, from storage medium in order to access the information: col. 4, lines 10-19, col. 8, lines 44-48 and col. 12, lines 48-58; I/O manager program: routines for file system and archival operations accessing the storage media: abstract and col. 21, lines 20-40 and see fig. 6; receiving a I/O request: col. 21, lines 18-67 and col. 22, lines 1-67; also see fig. 6 and determining what needs to be done to process the I/O request: col. 11, lines 60-67 and col. 12, lines 12-21 and data block and file structure: col. 5, lines 18-31 and col. 26, lines 50-62).

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach the archival operations or the second request type..

However, Irwin teaches I/O request for archival storage device operations on which the requested data file is stored and data file copy for this operation (col. 11, lines 45-67 and col. 12, lines 1-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claims 18-19, Cabrera discloses an article of manufacture as discussed in the claim 15. Also Cabrera teaches file structure (col. 26, lines 50-62).

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach wherein the second routine presents all of the data as a file structure and wherein the second routine presents a specified file.

However, Irwin teaches I/O request for backup the archival storage device (col. 18, lines 28-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 20, Cabrera teaches wherein the program including information about the data (the program I/O manager controlling the I/O request data: col. 16, lines 22-50).

With respect to claim 21, Cabrera teaches wherein the information about the data includes a file system directory (col. 23, lines 32-67 and col. 24, lines 1-25).

With respect to claim 22, Cabrera teaches having data stored thereon and having computer readable program code thereon, the computer readable program code including a first routine for accessing the data in response to a request from a first target system type and a second routine for accessing the data in response to a request from a second target system type (for retrieving the required information, loading a program an appropriate program - I/O manager, from storage medium in order to access the information: col. 4, lines 10-19, col. 8, lines 44-48 and col. 12, lines 48-58; I/O manager

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program: routines for file system and archival operations accessing the storage media: abstract and col. 21, lines 20-40 and see fig. 6; receiving a I/O request: col. 21, lines 18-67 and col. 22, lines 1-67; also see fig. 6 and determining what needs to be done to process the I/O request: col. 11, lines 60-67 and col. 12, lines 12-21).

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach the archival operations or the second request type..

However, Irwin teaches I/O request for archival storage device operations on which the requested data file is stored and data file copy for this operation (col. 11, lines 45-67 and col. 12, lines 1-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 23, Cabrera discloses an article of manufacture as discussed in the claim 22.

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach wherein said program presents the requested data formatted in accordance with the target system type.

However, Irwin teaches I/O request for backup the archival storage device (col. 18, lines 28-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 24, Cabrera teaches wherein the data is stored on the data storage media as raw data blocks (col. 15, lines 18-31).

With respect to claim 25, Cabrera teaches having data stored thereon and having computer readable program code stored on a secondary storage associated with the computer usable medium, the computer readable program code including a first routine for accessing the data in response to a request from a first target system type and a second routine for accessing the data in response to a request from a second target system type (secondary storage device such as magnetic disks, tape silos, optical disks and a collection of tapes: col. 6, lines 15-34; retrieving the required information, loading a program an appropriate program - I/O manager, from storage medium in order to access the information: col. 4, lines 10-19, col. 8, lines 44-48 and col. 12, lines 48-58; I/O manager program: routines for file system and archival operations accessing the storage media: abstract and col. 21, lines 20-40 and see fig. 6; receiving a I/O request: col. 21, lines 18-67 and col. 22, lines 1-67; also see fig. 6 and determining what needs to be done to process the I/O request: col. 11, lines 60-67 and col. 12, lines 12-21).

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach the archival operations or the second request type..

However, Irwin teaches I/O request for archival storage device operations on which the requested data file is stored and data file copy for this operation (col. 11, lines 45-67 and col. 12, lines 1-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.

With respect to claim 26, Cabrera discloses an article of manufacture as discussed in the claim 25.

Cabrera discloses I/O manager as a program forwarding the I/O request and transferring the appropriate information to the appropriate driver or storage media and loading and retrieving an appropriate program from an appropriate storage media. The program or I/O manager including certain operations such as file system operations and archival storage operations (see abstract) or the first request type and the second request type, and calling the appropriate routine by on the I/O request . Cabrera does not clearly teach wherein the secondary storage is built into a cartridge for the data storage media.

However, Irwin teaches a plurality of data storage cartridge: magnetic tape cartridges (col. 5, lines 15-46).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera with the teachings of Irwin by incorporating the use of a second request type for access storage media via the archival storage device on which the requested data is stored and the I/O request such as data file copy and dismount operation. The motivation being to have allowed the use of specifying of the operations such as file system operations and backup archival operations or process in order to copy the data file from the program, I/O manager, stored on the data storage media.



6. Claim 5 is are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,978,815 issued to Cabrera et al. (hereinafter Cabrera) in view of US Patent No. 5,566,331 issued to Irwin, Jr. et al. (hereinafter Irwin) and further in view of Pub. No. 2002/0152194 of Ramaprakash H. Sathyanarayan (hereinafter Sathyanarayan).

With respect to claim 8, Cabrera in view of Irwin discloses a method for retrieving data from a data storage media as discussed in claim 1.

Cabrera and Irwin disclose substantially the invention as claimed. However, Sheppard and Zimmermann do not teach wherein the second set of operations includes operations selected from CPIO and TAR.

However, Sythyanarayan teaches utilities in a Unix Operating system consisting of CPIO (COpy In/Out) and TAR (Tape Archiver) (Page 1, section 0001).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera in view of Irwin with the teachings of Sythyanarayan by incorporating the use of Unix Operating system's archiving utilities for backing up systems, creating file archives. The motivation being to speed up archival operations and a copy process is also speeded up by transferring data from /to data storage media.

7. Claims 8-9 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,978,815 issued to Cabrera et al. (hereinafter Cabrera) in view of US Patent No. 5,566,331 issued to Irwin, Jr. et al. (hereinafter Irwin) and further in view of US Patent No. 5,276,867 issued to Kenley et al. (hereinafter Kenley).

With respect to claims 8-9, Cabrera in view of Irwin discloses a method for retrieving data from a data storage media as discussed in claim 1.

Cabrera and Irwin disclose substantially the invention as claimed. However, Sheppard and Zimmermann do not teach wherein the second request type includes a request for one or more logical volumes; wherein the second request type includes a request for an image copy of the data.

However, Kenley teaches request for logical volume (coll. 17, lines 42-56 and image backup (col. 7, lines 51-62 and col. 8, lines 15-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera in view of Irwin with the teachings of Sythyanarayan by incorporating the use of Unix Operating system's archiving utilities for backing up systems, creating file archives. The motivation being to speed up archival operations and a copy process is also speeded up by transferring data from /to data storage media.

With respect to claims 16-17, Cabrera in view of Irwin discloses an article of manufacture as discussed in claim 15.

Cabrera and Irwin disclose substantially the invention as claimed. However, Sheppard and Zimmermann do not teach wherein the second request type includes a

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request for one or more logical volumes; wherein the second request type includes a request for an image copy of the data.

However, Kenley teaches request for logical volume (col. 17, lines 42-56 and image backup (col. 7, lines 51-62 and col. 8, lines 15-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Cabrera in view of Irwin with the teachings of Sythyanarayan by incorporating the use of Unix Operating system's archiving utilities for backing up systems, creating file archives. The motivation being to speed up archival operations and a copy process is also speeded up by transferring data from /to data storage media.

**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is 703 306-4527 or via E-Mail: ANH.LY@USPTO.GOV. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on 703 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703 746-7239.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks


Washington, D.C. 20231

or faxed to: Central Fax Office (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-6606 or 703 305-3900.

  
JEAN M. CORRIELUS  
PRIMARY EXAMINER

ANH LY   
JUL. 12<sup>th</sup>, 2004